

In the Claims

1. (Currently Amended) An audio post processing method for digitally encoded audio, comprising the following sequenced processes:

matrix mixing [[an]] a digital audio signal, then

decoding a discrete digital surround channel of the matrix mixed audio signal,

then

outputting a discrete digital low frequency input channel of the matrix mixed audio signal to a low frequency effect compatible speaker,

transmitting [[an]] discrete ambient noise containing channels of the matrix mixed audio signal to a speaker system to create a three dimensional effect, then

center channel equalizing the matrix mixed audio signal.

2. (Previously Presented) The audio post processing method according to claim 1, wherein matrix mixing the audio signal further comprises applying a downmixing algorithm to the audio signal.

3. (Previously Presented) The audio post processing method according to claim 1, wherein matrix mixing the audio signal further comprises extracting at least four channels from the matrix mixed audio signal.

4. (Previously Presented) The audio post processing method according to claim 1, further comprising driving a centrally-located loudspeaker with a center channel of the matrix mixed audio signal.
5. (Previously Presented) The audio post processing method according to claim 1, further comprising driving a plurality of loudspeakers positioned towards the rear and to the sides of a listener with the surround channel of the matrix mixed audio signal.
6. (Previously Presented) The audio post processing method according to claim 1, further comprising using a bass channel of the matrix mixed audio signal to drive a low frequency effect loudspeaker.
7. (Previously Presented) The audio post processing method according to claim 1, further comprising transmitting ambient noise to a plurality of loudspeakers positioned towards the rear and the sides of a listener.
8. (Previously Presented) The audio post processing method according to claim 1, further comprising transmitting ambient noise to a loudspeaker positioned towards the front of a listener to create a encompassed impression.

9. (Previously Presented) The audio post processing method according to claim 1, further comprising inputting a listener preference and available equipment status into a player console, wherein the listener preference reflects a desired post processing effect.

10. (Currently amended) An audio post processing method comprising the following ordered processes:

matrix mixing [[an]] a digital audio signal, then
decoding a discrete surround channel of the matrix mixed audio signal, then
outputting discrete low frequency input channels to a bass compatible speaker, then
applying a headphone algorithm to the matrix mixed audio signal.

11. (Previously Presented) The audio post processing method according to claim 10, wherein matrix mixing the audio signal further comprises-applying a downmixing algorithm to the audio signal.

12. (Previously Presented) The audio post processing method according to claim 10, wherein matrix mixing the audio signal further comprises-extracting at least four channels from the audio signal.

13. (Original) The audio post processing method according to claim 10, further comprising driving the headphone speaker with a center channel of the signal.

14. (Previously Presented) The audio post processing method according to claim 10, further comprising driving the headphone speaker with a surround channel of the matrix mixed audio signal.

15. (Original) The audio post processing method according to claim 10, further comprising transmitting ambient noise to the headphone speaker.

16. (Original) The audio post processing method according to claim 10, further comprising inputting a listener preference and available equipment status into a player console, wherein the listener preference reflects a desired post processing effect.

17. (Currently Amended) An audio post processing system, comprising:

at least one decoder operable to perform the following sequenced steps:

matrix mixing [[an]] a digital audio signal, then

decoding a discrete surround channel of the matrix mixed audio signal, then

outputting a discrete low frequency input channel of the matrix mixed audio signal to a low frequency effect compatible speaker,

transmitting [[an]] discrete ambient noise containing channels of the matrix mixed audio signal to a speaker system operable to create a three dimensional effect, then

center channel equalizing the matrix mixed audio signal;

a player console operable to receive a listener input;

a signal source producing the matrix mixed audio signal comprised of a plurality of discrete channels, each channel operable to drive a loudspeaker positioned at one or more of a plurality of positions.

18. (Previously Presented) The audio post processing system of claim 17, further comprising output amplifiers operable to drive a loudspeaker positioned at one or more of the following positions relative to a listener: front, right, left and rear.

19. (Previously Presented) The audio post processing system of claim 17, further comprising output amplifiers operable to drive a headphone speaker.

20. (Previously Presented) The audio post processing system of claim 17, wherein the listener input reflects a listener preference and the disposition of available equipment.

21. (Previously Presented) The audio post processing system of claim 17, further comprising surround sound channel output amplifiers driving loudspeakers positioned towards the rear and sides of a listener.

22. (Previously Presented) The audio post processing system of claim 17, further comprising a center channel equalizer output amplifier driving a loudspeaker positioned towards the front and center of a listener.

23. (Previously Presented) The audio post processing system of claim 17, further comprising a bass channel amplifier driving a low frequency effect loudspeaker.

24. (Previously Presented) The audio post processing system of claim 17, wherein the at least one decoder utilizes digital cinema sound techniques to direct ambient noise channels of the audio signal to loudspeakers positioned towards the rear of a listener.

25. (Previously Presented) The audio post processing system of claim 17, wherein the at least one decoder utilizes a virtual enhanced sound algorithm to direct an ambient noise channel of the audio signal to loudspeakers positioned towards the front of a listener.

26. (Previously Presented) The audio post processing system of claim 17, wherein the at least one decoder creates a center channel of the matrix mixed audio signal for driving a loudspeaker that is centrally located with respect to a listener.

27. (Previously Presented) The audio post processing system of claim 17, wherein the at least one decoder creates the surround sound channel for ambient noise and for driving two loudspeakers that are located to the right and left behind a listener.

28. (Currently Amended) An audio post processing system, comprising:
at least one decoder operable to perform the following sequenced processes:

matrix mixing [[an]] a digital audio signal, then
decoding a discrete surround channel of the matrix mixed audio signal, then
outputting discrete low frequency input channels to a bass compatible speaker,
then
applying a headphone algorithm;
a player console operable to receive a listener input; and
a signal source producing the digital audio signal comprised of a plurality of
discrete channels, each channel operable to drive a loudspeaker positioned at one or more of a
plurality of destinations.

29. (Currently Amended) An audio post processing method comprising performing a sequence
selected from the group consisting of:

- a) matrix mixing [[an]] a digital audio signal and decoding a discrete surround channel of
the matrix mixed audio signal;
- b) matrix mixing the digital audio signal, decoding the discrete surround channel, and
outputting a discrete low frequency input channel of the matrix mixed audio signal to a low
frequency effect compatible speaker;
- c) matrix mixing the digital audio signal and outputting the discrete low frequency input
channel of the matrix mixed audio signal to the low frequency effect compatible speaker;
- d) matrix mixing the digital audio signal, decoding the discrete surround channel,
outputting the discrete low frequency input channel of the matrix mixed audio signal to the low

frequency effect compatible speaker, and transmitting [[an]] discrete ambient noise containing channels of the matrix mixed audio signal to a speaker system operable to create a three dimensional effect;

e) matrix mixing the digital audio signal, decoding the discrete surround channel, and transmitting the discrete ambient noise containing channels of the signal to the speaker system operable to create the three dimensional effect;

f) matrix mixing the digital audio signal, outputting the discrete low frequency input channel of the matrix mixed audio signal to the low frequency effect compatible speaker, and transmitting the discrete ambient noise containing channels of the matrix mixed audio signal to the speaker system operable to create the three dimensional effect;

g) matrix mixing the digital audio signal and transmitting the discrete ambient noise containing channels of the matrix mixed audio signal to the speaker system operable to create the three dimensional effect;

h) matrix mixing the digital audio signal, decoding the discrete surround channel, outputting the discrete low frequency input channel of the matrix mixed audio signal to the low frequency effect compatible speaker, transmitting the discrete ambient noise containing channel of the matrix mixed audio signal to the speaker system operable to create the three dimensional effect, and center channel equalizing the input signal;

i) matrix mixing the digital audio signal, decoding the discrete surround channel, and center channel equalizing the matrix mixed audio signal;

j) matrix mixing the digital audio signal, outputting the discrete low frequency input channel of the matrix mixed audio signal to the low frequency effect compatible speaker, and center channel equalizing the matrix mixed audio signal;

k) matrix mixing the digital audio signal, transmitting the discrete ambient noise containing channel of the matrix mixed audio signal to the speaker system operable to create the three dimensional effect, and center channel equalizing the matrix mixed audio signal;

l) matrix mixing the digital audio signal, decoding the discrete surround channel of the matrix mixed audio signal, outputting the discrete low frequency input channel of the matrix mixed audio signal to the low frequency effect compatible speaker, and center channel equalizing the matrix mixed audio signal;

m) matrix mixing the digital audio signal, outputting the discrete low frequency input channel of the matrix mixed audio signal to the low frequency effect compatible speaker, transmitting the discrete ambient noise containing channel of the matrix mixed audio signal to the speaker system operable to create the three dimensional effect, and center channel equalizing the matrix mixed audio signal; and

n) matrix mixing and center channel equalizing the matrix mixed digital audio signal; wherein matrix mixing always precedes decoding the surround channel, outputting the low frequency input channel, transmitting the discrete ambient noise containing channel, and center channel equalizing the matrix mixed audio signal, wherein decoding the surround channel of the audio signal always precedes outputting the low frequency input channel, transmitting the ambient noise containing channel, and center channel equalizing the matrix mixed audio signal,

wherein outputting the low frequency input channel always precedes transmitting the ambient noise containing channel, and center channel equalizing the matrix mixed audio signal, and

wherein transmitting the discrete ambient noise containing channel always precedes center channel equalizing the matrix mixed audio signal.